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Studies regarding the evolution of the infections caused by the resistant bacteria and the way they can be combated

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Abstract

The fact that are known the contamination sources of the products, expresses the essence of an original managerial strategy, with the help of whom, the quality and the safely of these products are assured , starting with the raw material and finishing with the finite product. It is very important to study the consume of the products that were contaminated with bacteria, especially with the spared ones, in order to avoid the appearance of an infection. Some of the products that are very often contaminated with spared bacteria or with their spores are the cereals and the grits. Dehydrated potatoes contain 10%- 40% bacilli and if we speak of a number, there is a quantity smaller than10 CFU. It is probably that the bacilli that can be found in the dehydrated potatoes to be found also under the form of germs that can survive by drying the vegetal and can represent very important inoculums for the rehydrated product. Any raw material adapted at temperatures higher than 10% and smaller than 60% can allow the development of the vegetative bacili.The levels that pass 10 CFU/ g are considerated to be risky for the health of the human body and can be attained in a period of a few hours if the products are stached innapropiate between these temperatures.

Keywords: Infections, Unidentified Germs, UAP

1. Introduction

This paper presents the study of the resistant bacteria from the alimentary industry in the development of the infections from the romanian littoral.

This study is motivated by the fact that:

- Some of the products are infected from the ground or from the arrangement areas, and from the spaces where are stanched resistant bacteria.
- The bacteria spores resist at the disinfection process
- The bacteria's, especially the ones from the products produce toxic that can be lethal , as it in the case of the *Cl..Botulinum* or *Bacillus antracis*.
- The bacteria present in the alimentary products represent a fault of the production and storage process.
- The spores bacteria are the most resistant bacteria and they are the cause of a very complicated infection
- The cells of the vegetative forms and the bacteria's spores that appertain to the Bacillus and Clostridium genre have been studied by many investigators because of the lesions they generate at the intestines and nervous system levels.

Not long ago, the quality of the products, their productivity, and their rentability was a priority at a global level and it is a major factor in the production of products but also in swearing public alimentary services,

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becoming in this context the price instruments not only in the battle for the environment's protection and they also assure the functioning of the safety of the alimentary system.

We can define hygiene as an ensemble of rules and practices in conserving the health. The concept is very large and it is divided in many ensembles.

In the moment when these rules are not respected there are problems because there were consumed some products infected with pathogen germs or because of the development of the germs that is higher than the limit, and discomfort appears.

2. Materials and method

Some of the most frequent products that can be infected with spores bacteria or with their germs are cereals and grits, so often used in the unities of public alimentation.

For example, dehydrated potatoes contain bacillus between 10%- 40% and as a number we can speak of a quantity smaller than 10CFU/G It is probably that the bacilli that can be found in the dehydrated potatoes to be found also under the form of germs that can survive by drying the vegetal and can represent a very important inoculums for the rehydrated product, where the conditions do not favorize the germs process.The mashed potatoes, at a temperature higher than 10 C and smaller than 60 C can allow the development of the vegetative bacillus. The levels that that are higher than 10 are considered to be risky for the health of the human body and can be attained in a period of a few hours if they are stanched inappropriate between these temperatures. The food that contains mashed potatoes can provoke serious disease. It is very important to understand the way how different antimicrobial agents are implicated in controlling the state of salubrity, in order to establish an effective strategy to control the infection cases.

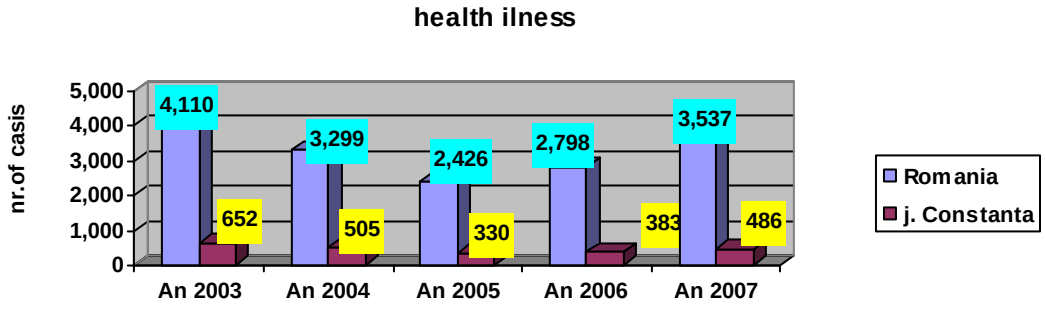
The grits, from which we can extract the indian meal, can contain grouts, mildew and the normative acts allow a loading of spores *Bacillus cereus* from 100/g. product.

The evidences that beat these values can not be putted in the process of preparing the food in UAP.

Considering that in the estival period on the romanian littoral are many tourists, the infections from the least years have been analyzed. This has been done in order to see the cause of the infection periods, analyzing all the bacteria that can cause infections and presenting those caused by the spored bacteria.

The products represent any substance , even if it is prepared, semi-prepared or raw material for the human body, including drinks, chewing gum,and any substance used in preparing and treating, tobacco and substances used as medicines.

We can make a short classification of the infections: TA- produced by bacteria that contain endotoxine, where appears the toxic and the infection element; TA- produced by the toxin that are in the product, where appears only the toxic element, TA- produced by a multiplication of germs. (*Bacilus cereus, Clostridium botulinum, etc);* 30%- 60% from the TA are produces by the Salmonella, 20- 30% are produced by the enterotoxical staphylococci. *Staphylococcus aureus, Staphylococcus intermedius*)and somes are products by Enterobacteriaceae (*Shigella, Proteus, Escherichia coli*), Bacilaceae (*Bacillus sutilis, Bacillus cereus, Bacillus anthracis ,Clostridium botulinum, Clostridium perfringens),* Pseudomonaceae,Streptococi (*Streptococcus fecalis, Streptococcus viridans, Streptococcus piogenes*) Vibrionaceae (*Vibrio parahemoliticus*).



Figures .1 The Health illness distribution from years.

Table 1. Health illness - anotimps repartition

Year	Total	summer	springtime	autumn	hiver
2003	652	19	7	3	2
2004	505	16	4	2	1
2005	330	17	3	1	1
2006	383	15	6	3	2
2007	486	18	5	2	1

3. Results and discussion

From the category other germs, there are also present the infections caused by eating products infected with spored bacteria.

In order to reduce the these infections the consumers must be educated because it was observed that a big number of cases are from the domestic environment. By using the disinfectants in the concentrations already known by the producer and replacing the ones used as pollutant of the environment with disinfectants that can be very easy to use it and accessible. This aspect although, it is the last thing that is mentioned it is very important. In the 2 table it is presented the tests situations realized on the production areas in unities of public alimentation before and after using the combined disinfectants. It can be observed a decrease of the number of the bacteria, especially of the spores ones when combined disinfectants are used.

Table 2. **Germs responsabil from health ilness Toxiinfecţii alimentare**

Period/germs	*E.coli*	*Salmonella*	*Stafilococcus aureus*	*Others germs*
An 2003	2	6	1	8
An 2004	4	8	2	2
An 2005	3	10	1	3
An 2006	2	8	1	8
An 2007	5	7	2	3

4. Conclusion and futire work

The detergent and the disinfectants used for a long period, at subterminal concentrations and reduced periods of time favor the forming of the microbial resistance

Using combined disinfectants represent a very important step in the battle against the bacteria and in creating the alimentary safety.

The disinfectants and the consumer's protection realize the protection of the environment where the consumer lives.

When we act from different parts on the bacteria, we limit their defense and their possibility to get used with the disinfectants. It is much harder for a bacteria to learn how to fight with 3 substances as it is with only one.

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